

# ATOMIC ENERGY *newsletter*®

A SERVICE FOR INDUSTRY BUSINESS ENGINEERING AND RESEARCH  
ROBERT M. SHERMAN, EDITOR. PUBLISHED BI-WEEKLY BY ATOMIC ENERGY NEWS CO., 1000 SIXTH AVENUE, NEW YORK 18, N. Y.

Dear Sir:

September 17th, 1957  
Vol. 18...No. 3

Acquisition of Isotope Products, Ltd., of Oakville, Ont., by Curtiss-Wright of Canada, Ltd., has been approved by directors of Isotope Products; stockholder meeting to consider terms will be held shortly. Basis for the deal will be an exchange of Curtiss-Wright of Canada shares for those of Isotope Products. Canadian Curtiss-Wright is a wholly owned subsidiary of Curtiss-Wright Corp. (U.S.). (Other FINANCIAL NEWS, p. 2 this LETTER.)

Some \$60 million has been invested through the Atomic Energy Board of South Africa in uranium extraction plants and auxiliary sulfuric acid production units, according to A. J. A. Roux, research and planning director of the Board. Dr. Roux estimated that with full production in all its uranium plants, South Africa's annual exports of uranium oxide will be valued at nearly \$50 million. (Other RAW MATERIAL NEWS, p. 5 this LETTER.)

Gradual termination of the USAEC contract with the nuclear products-Erco division of ACF Industries (Buffalo, N.Y.) is being considered by the Commission. The work is in the nature of a classified nuclear weapons project. Change in the USAEC program is responsible for the contract change. (Other CONTRACTS AWARDED, PROPOSALS ASKED, p. 2 this LETTER.)

Small nuclear research center is being constructed by Minnesota Mining & Manufacturing Co., St. Paul, at the company's central research laboratory in that city. The center will include a nuclear materials laboratory primarily devoted to the development of high temperature reactor materials and a gamma radiation facility. (American Lava Co., wholly-owned subsidiary of Minnesota Mining, will build pilot plant, possibly in Chattanooga, Tenn., for production of ceramic fuel elements for nuclear power reactors, according to R. A. McGinnis, vice-president. Plant is expected to be operating by next Spring.)....Zero power model of its university training reactor will be built by American-Standard at the company's new atomic energy division laboratories now under construction at Mountain View, Calif. University people will be trained by the company in start-up operating techniques of this particular type reactor. (Other BUSINESS NEWS, p. 5 this LETTER.)

Continuous collection of upper air samples is now to be conducted by the Strategic Air Command of the U. S. Air Force on a regular basis. (The military work will supplement the monitoring now carried out by the USAEC using balloons.) Samples obtained by the aircraft will be analyzed by the Armed Forces Special Weapons Project for radioactivity content. Laughlin Air Force Base, Del Rio, Tex., will be the first site for the sampling project.

Schedule of six courses of four-weeks duration each is planned for 1958, by the Oak Ridge Institute of Nuclear Studies, to cover basic techniques of using radioisotopes. The courses consist of laboratory work, lectures on lab experiments, general background lectures, and special topic seminars, with most time devoted to the lab. Courses will run Jan. 6-31; Feb. 3-28; May 19-June 13; June 16-July 11; Aug. 11-Sept. 5; and Sept. 8-Oct. 3.

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ATOMIC ENERGY FINANCIAL NEWS...

MERGER PLAN UNDER CONSIDERATION:- Plan to merge Atomic Fuel Extraction Corp. with a new company, Nuclear Resources, Inc., will be voted upon in Denver Sept. 25 by stockholders of Atomic Fuel. Nuclear Resources, Inc., is a new company set up by Transworld Resources, Inc., San Antonio. Under terms of the proposed merger, Nuclear Resources would assume liabilities of Atomic Fuel up to \$300,000, and would make available to Atomic Fuel \$4.5 million for its construction and operation of a uranium mill. (Atomic Fuel has claims and leases in Colorado and Utah, and also holds milling contract from USAEC for uranium ore processing plant to be built at Bedrock, Colo.) Atomic Fuel stockholders or the company itself, under the merger plans, would receive Nuclear Resources stock on a share-for-share basis.

MUTUAL FUNDS IN NUCLEAR FIELD SHOW ACTIVITY:- Energy Fund, New York, whose investments are in companies concerned with energy production, generation, etc., including the nuclear, had total net assets August 31, 1957 of \$4,265,756; this was a 56% increase over total net assets of \$2,732,071 a year earlier. (The company had sales of shares amounting to \$1,643,787 during 12-months ending August 31, 1957, against redemptions of \$114,822. This redemption rate of 7% of sales compares with the 30% redemption rate the mutual fund business experienced for the first six months of 1957.).....Atomic Development Mutual Fund, Washington, D.C., has added to its portfolio 4,500 shares of Homestake Mining; 18,000 Preston East Dome Mines, Ltd.; 9,100 Combustion Engineering; 3,500 Martin Co.; and 2,700 Metals & Controls. Purchases were made during recent periods of market weakness.

STOCKHOLDING CHANGES SHOWN:- Changes in stockholdings made in August by officers of listed firms with interests in the nuclear field include purchase by Hugh Fulton, president, Stanrock Uranium Mines, Ltd., of 1,796 shares of the company's common stock making his direct holdings 53,054 shares. In another transaction, J. V. Naish, executive vice-president of the Convair division of General Dynamics Corp., acquired 7,000 common shares through stock option bringing direct ownership to 7,200.

CONTRACTS AWARDED, BIDS ASKED...

PROPOSALS ASKED:- U.S. architect-engineering firms experienced in reactor work have been invited by the USAEC Division of Reactor Development, Wash., D.C., to submit by Sept. 23rd proposals for the engineering design of a natural uranium, gas-cooled, graphite-moderated nuclear electric power plant of 40,000 electrical kilowatts capacity. (Although development, design and engineering work on this prototype plant has been authorized by Congress, its construction has not been, nor has a site for the plant been selected.)

CONTRACTS AWARDED:- Contract of USAEC with Nuclear Metals, Inc., Cambridge, Mass., for research and development on nuclear materials and fuel elements, has been modified and extended for four years. New contract, which is part of final transition of Nuclear Metals from Government to private ownership, provides that the firm will buy from the USAEC the heavy machinery and other laboratory equipment now in use at the Hood Metallurgical Laboratory, Cambridge, and furnish at its own expense building and facilities. (Nuclear Metals was set up in 1954 by Arthur D. Little, Inc., and Alleghany Ludlum Steel Corp., to operate Hood, where nuclear research had been conducted continuously since the World War II phase of the U.S. atomic energy program.)

Architectural design and engineering of laboratory and office facilities for the model C Stellerator thermonuclear research program at Princeton University will be done by Walter Kidde Constructors, Inc., under recently awarded USAEC contract. (Stellerator project will involve research into controlled thermonuclear reactions; work will be done at the University's Forrestal Research Center near Princeton, N.J.)

Economics and technical feasibility of nuclear energy as power source for distillation of saline water will be examined by Fluor Corp., Ltd., Los Angeles, under \$25,000 research contract company has received from U.S. Dept. of Interior, demineralization of saline waters project. Investigations will be done by group at Fluor's Whittier, Calif., research division.

Contract to purchase substantial quantities of low lime uranium ores of Jen, Inc., Moab, Utah, has recently been signed by Vitro Uranium Co., division of Vitro Corp. of America. Under the agreement, Jen will ship uranium ores from its Cord mine in San Juan County, Utah, to Vitro Uranium's Salt Lake City mill, one of the largest custom uranium mills in the U.S.

NEW PRODUCTS, PROCESSES, INSTRUMENTS...other manufacturers news...

NEW PRODUCTS:- Radiation detectors, using crystals which glow under various intensities of gamma radiation, are being offered by this manufacturer under trade name Gard. In operation, the crystals are viewed through a magnifying lens when the unit is held before the eye. The unit is offered for civil defense use; it has an indefinite shelf life. --Sargent-Rayment Co., 4926 E. 12th St., Oakland 1, Calif.

Chromatogram scanner, model SC-55, for automatically scanning chromatogram strips, is used with techniques that locate and measure quantitatively various radioactive constituents of a material which has been separated by the chromatographic method. --Tracerlab, Inc., Waltham 54, Mass.

New labeled compounds, offered by this supplier, include the vitamin ascorbic 1-C-14 acid; the pharmacologic agent, DL-noradrenaline-beta-C-14; and the plant hormone, naphthalene-1-C-14-1-acetic acid. Other labeled items include compounds of sulfur-35, as well as phosphorous pentasulfide-P-32, and antimony trichloride-Sb-24. --Volk Radiochemical Co., 5412 N. Clark St., Chicago 40, Ill.

MANUFACTURERS' ORDERS RECEIVED:- Order for three intermediate sodium heat exchangers for the \$54 million nuclear power station near Detroit of Power Reactor Development Co. has been received by Alco Products, Inc., Schenectady, N.Y. Value of the order was placed at over \$1,750,000. Units will incorporate design features of the sodium heat exchangers manufactured by Alco for the U.S.'s first nuclear powered submarine, the Nautilus. Commonwealth Associates, Inc., Jackson, Mich., is architectural engineer for the nuclear side of the power plant, with construction work being done by United Engineers & Constructors, Philadelphia.

Sandia Corp., prime nuclear weapons contractor to the USAEC, has placed recent order for 2 MEV Van de Graaff machine with High Voltage Engineering Corp., Burlington, Mass. Sandia plans to make the \$120,000 accelerator the first unit in a proposed nuclear research facility which eventually is to include a research reactor and ancillary equipment.

Now being constructed by Applied Radiation Corp. under order placed by the General Atomic division of General Dynamics Corp., is 30 MEV traveling-wave accelerator. Machine will be used in General Atomic's San Diego laboratory in nuclear reactor physics studies, radiation damage investigations, radiation chemistry, and radiography.

MANUFACTURERS' NEWS:- Options have been taken up by Olin Mathieson Chemical Corp. on a site near Montville, Conn., where small plant will be erected. The company plans to assemble nuclear reactor cores on completion of the plant which is projected for the early part of 1958.

Nuclear reactor grade graphite is now being produced by Graphitwerke Kropfmuehl. The W. German firm reports that it is making available a graphite block with density of 2.07 grams per cc. Process involves using a mineral with about 20% graphite as crystal flakes, concentrating it by a flotation process, and purifying by high temperature method. Powder undergoes pressure of 3,000 atmospheres to make final product.

PRODUCT NOTES:- Encapsulation service on large cobalt-60 sources now performed by USAEC for the public in the hot cell facilities at Oak Ridge National Laboratory will be ended Mar. 1, 1958, although service to Federal agencies will continue. Decision to discontinue the public service was result of private industrial firms preparing to provide it at reasonable prices. Nuclear Systems, division of the Budd Co., Phila., has advised the USAEC it is ready to encapsulate cobalt-60 sources up to 50,000 curies. Picker X-ray, another firm in the field, is designing a hot cell to handle up to 1 million curies; such hot cell facilities cost from \$100,000 to \$500,000, depending on capacity.

MANUFACTURERS' LITERATURE:- New bulletin giving technical information on this manufacturer's model 212 high voltage supply is now available from Radiation Instrument Development Laboratory, 5757 S. Halstead St., Chicago, Ill.

Brochure describing its Mark 1-F4 linear electron accelerator is offered by Applied Radiation Corp., Walnut Creek, Calif. (Of interest is the machine's electron beam, which is variable in energy from 2 to 10 MEV, and which can penetrate material of unit density up to 1½-in. thick from one side. Applications are in research into the effects of high energy radiation on chemical, food, drug, and electronic products.)

New nuclear equipment catalog of Tracerlab, Inc., Waltham 54, Mass., shows this nucleonic products firm's full line of nuclear laboratory equipment.



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#### ATOMIC ENERGY PATENT DIGEST...

ISSUED September 3, 1957 to PRIVATE ORGANIZATIONS:- (1) Method of minimizing product buildup in the production of metal including titanium and zirconium. C. E. Rick, inventor. No. 2,805,151 assigned to E. I. du Pont de Nemours & Co., Wilmington, Delaware.

ISSUED September 10, 1957 to PRIVATE ORGANIZATIONS:- (1) Isotope separating apparatus. R. N. Carter, inventor. No. 2,806,143 to R. N. Carter, Wheatland, N.Y. (2) Shutters for atomic radiation detectors or the like. D. D. Stellmacher, R. C. Danta, inventors. No. 2,806,147 assigned to Hoffman Electronics Corp., Calif.

ISSUED September 10, 1957 to GOVERNMENTAL ORGANIZATIONS:- (1) Uranium-oxide-containing fuel element composition and method of making same. J. H. Handwerk, R. A. Noland, D. E. Walker, inventors. No. 2,805,473 assigned to USAEC. (2) Conversion of plutonium trifluoride to plutonium tetrafluoride. S. Fried, N. R. Davidson, inventors. No. 2,805,916 assigned to USAEC. (3) Electrodeposition of plutonium. F. J. Wolter, inventor. No. 2,805,985 assigned to USAEC. (4) Coasting arc ion source. J. S. Foster, Jr., inventor. No. 2,806,161 assigned to USAEC.

TRADE-MARKS:- Grants have been made by trade-mark division, U.S. Pat. Off., to Industrial Nucleonics Corp., Columbus, Ohio, for names AccuRated (SN-24,165), and AccuRayted (SN-24,166); to be used as certification trade-marks.

#### NEW BOOKS & OTHER PUBLICATIONS...on nuclear topics...

Atomic Energy Appropriations for 1958; hearing before subcommittee on legislation, 85th Congress. 654 pages. No. Y 4. At 7/2:L 52/958. (\$1.75).....Naval Reactor Program and Shippingport Nuclear Power Plant Project; hearings before subcommittee of Joint Congressional Committee on Atomic Energy. 74 pages. No. Y 4. At 7/2:R 22/7. (30¢).....Facts About Fallout (revised). Prepared by Federal Civil Defense Administration. No. FCD 1.20: 2-11. (10¢).....Order above from--Sup't. of Documents, Wash. 25, D.C.

Nuclear Chemical Engineering, by Manson Benedict and Thomas H. Pigford, Mass. Insti. of Technology. Chemical engineering aspects of nuclear technology; materials of importance in nuclear reactors and processes used to concentrate, purify, and separate them. 594 pages. --McGraw-Hill Book Co., New York 36, N.Y. (\$9.50)

Nuclear Power Year Book; 1957/8. British firms in nuclear energy work; tables of constants, etc. --Rowse Muir Publications, London, England ( 3)

Radioisotope Production & Process Development; Annual Report for 1956. Covers production details, statistics, etc. No. ORNL-2303. (20¢).....Effects of Nuclear Radiation on Military Specification Greases; Part I. No. PB-121914. (75¢).....Order above from --Office of Technical Services, Wash. 25, D.C.

NOTES:- Catalog of courses on nuclear energy offered by European universities, technical colleges and research centers is available from OEEC Mission Publications Office, 2000 P St., N.W., Washington 6, D.C.

List No. 21 of available publications of U.K. Atomic Energy Authority has been compiled by the Library, Atomic Energy Research Establishment, Harwell, England.

#### PEOPLE...in nuclear work...

Sir Leonard Owen, has been appointed managing director of the industrial group, U. K. Atomic Energy Authority. Sir Leonard succeeds Sir Christopher Hinton who has left the managing directorship to assume position as chairman of the Central Electricity Generating Board.

David F. Shaw, presently assistant general manager for manufacturing, USAEC, is leaving that position Oct. 1st to become vice-president, Kaiser Engineers' division, Henry J. Kaiser Co., Oakland, Calif. Mr. Shaw has been associated with the U. S. atomic energy program since 1946.

#### RAW MATERIALS...prospecting, mining, marketing...

UNITED STATES:- International Resources Corp., Custer, S.D., has submitted to USAEC preliminary proposal for construction of mill to extract uranium concentrate from lignite in western part of North & South Dakota. (Similar project, initiated in 1955 by Ohio Oil Co., and Arthur E. Pew, is being deferred, parties have advised the USAEC. Stated reasons are that lignite cannot be economically processed in proposed mill at ceiling price of \$10.50 per pound of contained uranium oxide which USAEC originally agreed to pay until March 31, 1962.)

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#### ATOMIC ENERGY BUSINESS NEWS...

NUCLEAR DIVISION FORMED:- Formation of a wholly separate nuclear power division is being made by Hagan Chemicals & Controls, Inc., Pittsburgh. Major function of the division will be the application of Hagan instruments and control methods specifically to nuclear power reactors. Water treating methods developed by Hall Laboratories, and Calgon divisions of Hagan will be applied to the water problems of nuclear power generation. Heading the nuclear power division will be C. J. Munter, Hagan research engineer.

METALS PRODUCING FIRM PLANNED:- Jointly owned concern that will be one of the largest fully integrated producers of titanium and zirconium is to be formed by P.R. Mallory & Co.; Sharon Steel Corp.; and National Distillers & Chemical Corp. (National Distillers last year was awarded five year contract by the USAEC to supply 1 million lbs. per year of primary zirconium; it is building plant at Ashtabula, Ohio to produce 10 million lbs. of titanium and 2 million lbs. of zirconium per year.) Under the company's plans, Mallory-Sharon Titanium Corp., which is jointly owned by Mallory and Sharon, would acquire the titanium and zirconium assets of National Distillers. The new company, which would then be named Mallory-Sharon Metals Corp., would also acquire Reactive Metals, Inc., now jointly owned by National Distillers and Mallory-Sharon Titanium. Total assets of the new company would be about \$55 million; ownership would be equally distributed among the three companies. In addition to its one-third equity in Mallory-Sharon Metals, National Distillers would take up \$12.5 million of the new firm's debentures, bringing its total investment in the metals venture to approximately \$24 million.

NEW RADIATION CONTROL COMPANY ESTABLISHED:- New firm to service the atomic energy industry, Controls for Radiation, Inc., has been set up in Cambridge, Mass., by William E. Barbour, Jr., with Irving A. Bernstein as vice-president and technical director. Mr. Barbour was the founder and former president and chairman of Tracerlab, Inc., nucleonic products firm. The company plans to lease and maintain radiation monitoring instruments for nuclear reactor operators, fuel fabricators, reproducers of uranium fuels, users of radioactive materials and particle accelerators and radioactive waste disposal groups. Records will be kept of radiation exposure of personnel, analyses of reactor fuels will be made to determine fissionable material content, etc. Formation of the company was prompted by the projected rapid growth of the atomic energy industry in the next ten years with attendant problems of public safety, insurance, public liability and labor legislation, according to Mr. Barbour. He feels the new company will find its niche in handling these problems.

INDUSTRY-GOVERNMENT ROLES IN JAPANESE NUCLEAR ORGANIZATION DEFINED:- Plan has been approved by Cabinet in Japan by which the government will advance 20% of the money to form an atomic energy corporation; nine regional power companies will advance 40%; and electric appliance makers 40%. Under this settlement, which was acceptable to those who advocated full government control, as well as to those who wanted full private industrial control, capitalization will be for 1 billion yen (\$2,800,000). Tentative name selected for new organization will be Atomic Power Electric Generating Co. Guiding this organization are M. Shoriki, chairman, Atomic Energy Commission of Japan, and I. Kono, director general of the Economic Development Board of Japan.

PROPOSAL FOR NUCLEAR POWER PLANT MADE BY SOUTHEASTERN UTILITIES:- Carolinas Virginia Nuclear Power Associates, Inc., Charlotte, N.C., have now made formal proposal to the USAEC to construct nuclear power plant, under the USAEC's third-round nuclear reactor development program. Carolinas Virginia is made up of S. Carolina Electric & Gas Co.; Carolina Power & Light Co.; Virginia Electric & Power Co.; and Duke Power Co. Proposed plant would have electrical capacity of about 17,000 KW, using heavy water-cooled and heavy water-moderated reactor fueled with slightly enriched uranium. The company asked in its proposal that the USAEC support the major portion of the costs of development and that it waive charges for use of fuel material and heavy water for the duration of the contract period. The group proposes to pay all costs of plant construction and operation.

Sincerely,

The Staff,  
ATOMIC ENERGY NEWSLETTER

September 17th, 1957

0.00 per pound of contained radium oxide which  
til March 31, 1962.)

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